METAL FROM NEPTUNE

A new development in the plans of taking the treasures of the deep from King Neptune has been announced and shall soon be placed in production.

The scene of this new "marine mining" is a thousand acre tract on the shore of the Gulf of Mexico near Freeport, Texas. The purpose of this new plant is to extract magnesium from the sea water. It is calculated that the annual production of magnesium in the United States will be increased from 12,000,000 to over 25,000,000 pounds.

Only a few years ago the process of extracting bromine from the Atlantic ocean was initiated. This process was necessary for the production of antiknock gasoline. The Wilmington, North Carolina plant treats 200,000 gallons of sea water every minute. The process for the extraction of magnesium is even more startling inasmuch as the metal is heavier than water and since this process requires less effort than mining does.

After years of research, chemists and technicians report that each of the 320,000,000 cubic miles of ocean water contains some 175,000,000 tons of chemical combinations of such materials as gold, silver, copper iron, magnesium, potassium, aluminum, calcium, radium, strontium, chlorine, bromine, iodine, and sulphur. Further, each cubic mile of these materials has a potential value of some $5,000,000,000.

The magnesium industry itself is only twenty-five years old, having been started in 1915. It is the third most abundant engineering metal in the earth's crust. Engineers and scientists have carried on the development of the magnesium alloys and the various processes of fabrication of the metal and its alloys.

Dowmetal, one of the more important results of this research, is a silvery metal, one-fourth the weight of iron and two-thirds the weight of aluminum, possessed of great strength, toughness and durability, and speedily fabricated by all common methods.

The growing demand for the metal due to its wide use in the aviation, bus, railroad, and general transportation industries, as well as in the manufacture of lightweight portable tools and its broad application to household and office appliances, is what brought about the necessity of this new plant for utilization of this ocean source of magnesium.

After many months of research and quiet investigation, the Freeport site was selected because of its natural advantages. The plant is at the estuary of the Brazos River where the government maintains a 32 foot channel with a large turning basin for sea-going ships. This solves the question of transportation. There is an unlimited supply of raw materials available here.

The plant will have a capacity of 12,000,000 gallons of sea water daily, a quantity equivalent to the fresh water needs of a city of 120,000 inhabitants. It is stated that every cubic mile of sea water contains 5,700,000 tons of magnesium. The Dow Chemical Company, owners of the proposed plant, calculate that operating at full capacity, the new plant would have magnesium in just one cubic mile of ocean water to keep it going for 800 years.